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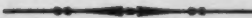
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JULY-SEPTEMBER 1956

**Equipment Available for Integrated
Data Processing**



**The Public Accountant and Punched
Card Accounting**



An Unusual Engagement

Published by

LYBRAND, ROSS BROS. & MONTGOMERY

Certified Public Accountants

Table of Contents

Equipment Available for Integrated Data Processing	1
BY FRANCIS E. MOORE	
The Public Accountant and Punched Card Accounting.	14
BY E. S. HARRIS	
An Unusual Engagement	23
Editorials	27
Retail Merchandise Accounting	
Annual Firm Tax Conference	
Notes	28

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Equipment Available for Integrated Data Processing

BY FRANCIS E. MOORE

(Boston Office)

Throughout present-day practical accounting goes a surge of progress in the adoption of modern accounting methods and procedures. Foremost among them is the furtherance of the use of the principles of integrated data processing. The insistence by management on obtaining accounting reports which are broader in scope, more informative in nature and content, and more current in presentation has stimulated interest and research in the field of data processing. The need of purchasing agents, sales managers, production control supervisors, and others for better statistical and financial information has also been an incentive. The present-day accomplishments foretell far-reaching developments and broader uses of data processing with inestimable future benefits.

The term "integrated data processing" means the automatic copying or posting from one business record to one or more other records at the time of the original entry with the minimum of human effort. Thereby collateral information is quickly produced in the form and at the place required in a manner

which reduces to a minimum the dangers arising from human participation. To some people, the term connotes office automation. The fundamental idea of integrated data processing has been carried out in relatively simple forms for many years. The uses of carbon paper in typewriters, sales books, autographic registers, and writing boards are forms of integrated data processing, since they make possible the reduction of necessary repetitive work in the providing of information, through copies to two or more persons or at two or more locations.

Companies in the various fields of business machines have made significant contributions to the advancement of integrated data processing. Typewriter manufacturers have developed electric typewriters which accelerate the typed preparation of reports, and have improved the type and spacing to make possible reports that are more easily readable. All fundamental arithmetical computations are possible on the late models of desk calculating machines. Modern listing and adding machines have provided

much to facilitate the preparation of accounting data. Bookkeeping machine companies have developed and streamlined their products, added automatic features for repetitive data, extended the number of controls (registers) and made relatively simple the machine conversion from one accounting task to another. Developments in tabulating machines and related procedures—through the adoptions of electronics and other new features—have been extensive. Even in the fields of relatively simple equipment—writing boards, addressograph equipment, hectograph equipment, and light transmission copying equipment, to name a few—much has been done to assist the accountant in furnishing to management reports which are current, accurate, informative, easily readable and, in preparation, economical.

Even with these developments, these machines and methods had certain common weaknesses. First, to a considerable extent their use required the reintroduction of the human element whenever copying was to be done. Secondly, there was no simple and effective means of transmitting recorded data from one location to another. Thirdly, and by far the most marked deficiency, was the lack of a common language and of compatibility between the various types of machines.

Some means had to be provided for writing, on one office machine, a language in words, figures, and sym-

bols that could be read by other office machines, with a minimum of human participation. To be of maximum use in accounting and associated fields, this language had to include the alphabet and the ten basic numerals. In integrated data processing, this is accomplished through the medium of punched paper tape or punched cards, which become the common language link between the original recording and all subsequent recording of data. Through the use of these mediums, integrated data processing is accomplished by (1) recording data mechanically at the point of origin, (2) storing the information in a condensed, readily-usable form, i.e., rolls of punched tape or racks of punched cards, for future use and (3) processing information through the use of common language equipment.

The principal advantages that accrue to an installation of integrated data processing through the use of tape or cards are:

1. Accuracy. Every time an element of human participation is removed from the preparation of accounting records, the chances of error are reduced.
2. Speed. More timely reports are available to management. Orders from remote warehouses can be filled more promptly. Faster preparation of invoices, reports of inventory changes, etc. is possible.
3. Improved management control. Prompt, current reporting gives management a chance to make profit-making and profit-saving decisions while the issues are still current. More informative accounting

statements and reports of wider range and scope are possible under integrated data processing. The range of opportunities for the use of punched tape in the field of statistics is broad and varied, encompassing phases such as sales analyses by territories, salesmen, customers and products, purchase analyses by suppliers and products, and payroll analyses by employee's number, account number or department number.

4. Reduced costs. Through elimination of much of the customary copying and transcribing, clerical costs and related office costs are reduced.

Punched paper tape, 11/16 inch in width, providing 5 channels for punching, is the medium most commonly used as the link between the original recording of data and subsequent transcribing thereof. This type of tape and the related 5-channel code have been used for many years with teletypewriters and similar forms of public communication. This uniform system of tape-punching provides for the twenty-six letters of the alphabet, the ten digits, as well as room for special instructions or symbols. Where rapid and frequent reference must be made to a relatively brief transaction, the code may be advantageously punched in the longitudinal edge of a card (approximately the size of a tabulating card) which provides a readily accessible record more easily handled than a section of tape.

There are several types of machines which "speak" the language of the punched tape, and several types which "read" the language and take action based on the orders received. The principal types will

be described in the following pages.

It is not within the scope of this article to discuss magnetic tapes and paper tapes of 6, 7 and 8-channels, or electronic data-processing equipment.

Nor is it possible in this article to suggest steps for designing a system of integrated data processing. However, in actually planning an integrated data processing system, it is well to have in mind the "building blocks" concept. At each step, it must be clearly determined that the input and output of one machine is compatible with the machine or procedure involved in the preceding and succeeding steps. It is necessary to determine not only the speed and volume possible through the addition of each contemplated "building block," but also the company's requirements for speed and volume. For example, if the information is not needed at a distant point until two or three days have elapsed, mail service rather than teletypewriter service should be adopted. Throughout each step in the designing of a system of integrated data processing, output must match input, and balance must be maintained.

TYPEWRITERS

Typewriters used in punched-tape processes are standard keyboard, electric typewriters with built-in auxiliary equipment for tape or card production, and tape or card reading. This auxiliary equipment on a machine such as the Flexowriter (Com-

mercial Controls Corporation) is connected with standard type bars and standard symbol keys.

Any information typed on a form, e.g., invoice, may be automatically selected by the machine and simultaneously punched in one or two by-product tapes. The machine also reads from tape, and, in the Flexowriter Programatic model, the tape may be used to program the typing of forms, in which process the tape actuates the machine to move the form to the correct typing position, "orders" it to type any repetitive information (customer's name, address and number, etc.) recorded on the tape, and "orders" it to stop for fill-in of nonrepetitive data by the operator who, when completing the typing of nonrepetitive data, presses a switch, causing the machine to read and control all typing operations until the next nonrepetitive fill-in is reached. All, or any part, of the tape-programmed typing may be produced on one or two additional tapes automatically. Other models of these modified typewriters are designed to punch or to read edge-punched cards for typing repetitive data automatically and can use paper tape interchangeably with cards. These cards may be inserted singly in the machine or may be of fanfold continuous card stock. It is also possible to operate the machine on a remote control basis as is described later in this section. Typing automatically from tape is done at

a speed of approximately 100 words per minute. Flexowriters are available in models which have input and output for 5, 6, 7 and 8-channel tape, or 5 or 8-channel edge-punched cards.

The Underwood Electronic Code-writer has an output of 5, 6, 7 or 8-channel tape; this equipment is an assembly of units consisting of a master Underwood Electric Typewriter, tape punch, tape reader, programming unit and as many "slave" electric typewriters as may be required.

The IBM 884 Typewriter Tape Punch creates an 8-channel punched tape simultaneously with the typing operation. The IBM Cardatype is a combination of three units—an electric typewriter, a card feeding and card reading control console, and an auxiliary full keyboard numerical unit—which will accept for typing information automatically read from IBM punched cards, the master typewriter keyboard or from the auxiliary keyboard. This equipment may be augmented by a 5 or 8-channel tape or card output or both.

The processing of sales orders is one of the most natural applications for punched tape equipment, principally because so much of the information on the average sales order is repetitive. In a typical installation, a master tape is prepared on a Flexowriter for each regular customer, showing customer name and number, address, shipping instruc-

tions, etc. Separate tapes are punched for products regularly purchased by certain customers, and are filed with the master tape by those customers. Upon receipt of a customer's order in the sales office, the machine operator removes the envelope containing that customer's tapes from the file adjacent to her desk and inserts the tapes in the machine for the preparation of the sales order. Punched codes on the tape direct the typewriter when to stop for the manual typing of non-repetitive data (customer's order number, quantities, etc.). While the shipping order with several copies is being typed, the machine simultaneously punches a 5-channel tape of all sales orders recorded that day in each sales office. These tapes, in rolls of approximately 100 orders to a roll, are forwarded to the central billing location for the eventual preparation of punched invoice cards. Copies of shipping orders are sent by the various sales offices to the warehouse as instructions to fill the orders; the original of each order is retained and a copy is sent to the customer as an acknowledgment of his order. At the centralized billing office, the tabulating-machine tapes are inserted in a tape-to-card converter for the purpose of obtaining printed invoice cards for each shipping order. These cards are retained in a file until a copy of the *filled* shipping order is received from the warehouse, at which time the quantities shipped

are recorded by "mark sensing" the punched invoice cards. Tabulating equipment automatically punches, calculates, and prints a multi-copy invoice, and at the same time, through the use of a connected summary punch, prepares an accounts receivable ledger card for each invoice.

One company effectively uses Flexowriters and punched-tape in its perpetual inventory and purchasing routines. The tub file of perpetual inventory cards houses tabulating cards and related 5-channel tapes. When an inventory item reaches the reorder level as indicated on its punched card, the tape is removed from the file and fed through a remote control motorized tape reader. The insertion of the tape in the remote control reader signals the operator of the Flexowriter in the Purchasing Department to set up the machine with a 6-part continuous purchase order form and to start the machine in its automatic preparation of the basic purchase order. All that remains to be done by the purchasing agent or buyer is to insert pricing information and approve the order.

ADDING AND LISTING MACHINES

Adding and listing machines, both of the "ten-key type" and of the "full-keyboard type," are now available with built-in tape-punching mechanisms. Such machines are the Friden "Add-Punch Machine" and the Monroe "Auto-Punch Add-

ing Machine." This tape-punching mechanism records the items being added and identifying symbols (through the use of the nonadd key or other designated symbol keys) representing part number, order number, etc. This tape punching is done automatically, concurrent with the preparation of the regular standard listing-machine tape. From these add-punch machines, the coded tape may be sent to be interpreted by a machine with a read-out mechanism such as a typewriter, communication machine, or tape-to-card machine.

A possible application of this equipment relates to the taking of a remote branch physical inventory, one in which it is necessary to accumulate quantities of particular items for recording on the physical inventory record. The add-punch machine mounted on a portable stand is used effectively to record (1) the inventory item number and (2) the related quantities on both the punched tape and the listing tape. The punched tape is mailed, or at times the information thereon is wired, to a central office where it is interpreted by a machine equipped with a read-out mechanism and the resulting information used to prepare data for accounting and statistical purposes.

Machines combining a typewriter and a calculator are available and are widely used in customer invoice preparation. The description of the billed item, the quantity

and price are typed on the invoice, the calculating mechanism computes the extension and feeds it back to the typewriter for automatic typing. The calculating mechanism also accumulates extension totals, computes discounts allowable, sales taxes, etc., which the typewriter records on the invoice. This equipment may be obtained in models that are actuated by punched tape and may be used to produce punched tape as a by-product.

Burroughs Corporation is introducing a 10-key adding-listing machine to be cable-connected to an IBM key-punch, which provides an adding machine listing and total of one card-field as the key punching is being done.

BOOKKEEPING MACHINES

Bookkeeping machines such as those manufactured by the Burroughs Corporation and The National Cash Register Company may be obtained with a cable-attached unit which will produce a punched tape as a by-product of the conventional bookkeeping machine or posting machine functions. Usually the data recorded on the tape will be limited to that which is required for transferring to punched cards. Machine codes are automatically punched in the tape by depressing certain keys of the bookkeeping machine. The predetermined position of the carriage may be used to control the turning on

and off of the tape-punching device.

Such tape-punching equipment has already had wide adoption in savings banks. The teller places the depositor's passbook in the window posting machine and records the account number, previous balance, nature of transaction and amount. The posting machine automatically computes and records the new balance. Simultaneously, through the cable-connected tape-punching unit, located in the teller's cage or in a remote department, a 5, 6, 7 or 8-channel punched tape is produced. Generally speaking, the punching mechanism may be controlled up to a distance of 500 feet from the parent machine. At the close of the day or oftener, this tape is removed and taken to a tape-to-card machine which converts the information to tabulating cards to be used as ledger posting media.

In using this equipment with vouchers payable routines, the voucher checks and voucher register are prepared on the bookkeeping machine and control totals are automatically accumulated and printed. As a by-product, the cable-attached unit creates a punched tape containing selected information to be transferred later to punched cards and used for accounting and statistical purposes.

The bookkeeping machine portion of this combination may be used as a standard, orthodox unit by disconnecting the cable which connects

the bookkeeping machine with the tape-punching unit.

Bookkeeping machine installations are now available with a card-punch coupler, making possible punched-card preparation of selected data processed on the bookkeeping machine.

CASH REGISTERS

Cash registers are now available which will produce a 5-channel punched tape, in addition to producing the standard types of cash register tapes. At the time of registering the sale, the sales clerk depresses the related cash register keys indicating amount of sale, salesman symbol, stock number, size, color, and other required basic information. These tapes are then placed in a tape-to-card converter from which punched cards are produced, these serving as media to prepare prompt, accurate, detailed information for the merchandise manager and others.

GRAPHOTYPE

This machine, manufactured by the Addressograph-Multigraph Corporation, is used for the completely automatic preparation of "addressograph plates" from standard 5 or 6-channel tape produced on a Flexowriter, teletypewriter or other tape perforators. Actuated by the messages contained on the tape, the Automatic Graphotype feeds the addressograph plates into place, embosses the information contained on

the tape, and discharges the plates. The punched tape may be used again to actuate other types of equipment. For department stores, specialty stores, publishing companies, insurance companies, national fraternal or labor organizations, and others where mailing lists are extensive, the use of this Automatic Graphotype equipment saves considerable time in the preparation of name plates. Plates may be automatically run from the Graphotype during night shifts with a minimum of attention from individuals then employed.

Of a different nature from the equipment described above, but still in the field of integrated data processing, is the Multilith line of offset duplicators manufactured by the Addressograph-Multigraph Corporation. The paper masters used in the Multilith machine may be produced on a Flexowriter, at the same time producing a punched tape for certain portions of the typed data.

TAPE-TO-CARD PUNCHES OR CONVERTERS

Just as individuals communing with others through a common language occasionally find it necessary to carry on a part of their business through the medium of another language, a system of integrated data processing—of which the common language is that of a 5-channel punched tape—extends itself into other language fields. Through the use of tape-to-card

punches or converters offered by Underwood Corporation, International Business Machines Corporation, Remington Rand, and others, the information on the punched tape is automatically transcribed into the language of punched cards. This transition or conversion is rapid, saving the time of key-punch operators otherwise required for manual key-punching, thereby eliminating a step of human participation. These tabulating cards facilitate the development of a wide variety of accounting and statistical data.

Far-flung organizations with branches or divisions at points distant from the central accounting office find this equipment to have wide utility. Basic information punched into paper tape as a by-product of other typing may be transmitted by teletypewriter, or the actual tape may be delivered by mail or special messenger, to the central accounting office. There, by means of a tape-to-card punch, the information is "read" by the machine and automatically punched into tabulating cards.

Through substantial savings resulting from the preparation of punched cards on the tape-to-card basis, many companies, heretofore feeling that punched-card records and reports were too expensive for their corporate budgets, may now find that they can afford this very desirable medium.

Of importance to small companies is the convenience and flexibility of

facilities offered by outside service bureaus, Recording and Statistical Corporation, International Business Machines Corporation, Sperry-Rand, Statistical Tabulating Company, and others. Tape prepared on a Flexowriter, or otherwise, may be sent to these service bureaus located in most principal cities, there converted to cards, which in turn are used by the service bureaus as basic data to prepare reports or analyses in the form and detail requested by officials of the company where the punched tape originated.

Important in some fields, also, is the use of card-to-tape punches. When it is necessary to wire-transmit data already on punched cards from one location to another location, or for some other reason a rapid and automatic means of re-recording the information into multi-channel paper tape is required, the card-to-tape punch is used. The converter can be controlled to skip over those card fields not to be punched in the tape. Teletype function codes can be punched in the tape from codes in the cards.

Related to this phase of integrated data processing, but not employing the use of punched tape, is the IBM Data Transceiver which communicates over telephone or telegraph lines data punched in tabulating cards directly without conversion to punched tape, creating a punched card at the receiving point. The unit at each end of the line both transmits and receives. A switch on

the machine permits halting card transmission at any time to permit voice communication over the same telephone circuits connecting the sending and receiving units of the transceiver.

"Mark sensing" previously referred to in this article is the pencil marking of a tabulating card in pre-designated areas and the subsequent automatic punching by a reproducing punch of the "reading" of the pencil marks. Examples of the use of "mark sensing" are in the fields of physical inventory where quantities, item numbers, etc. are recorded by pencil marks on the physical inventory cards, and on job time-cards where pencil marks are used for employee number, job number, pieces worked, etc. and in meter reading in public utilities.

TELETYPEWRITERS

Teletypewriter equipment in the 5-channel tape field of integrated data processing offers both input and output equipment in the following types:

- a. Type 19 teletypewriter sets (manufactured by Teletype Corporation) including as basic units, a page printer, a tape perforator, and a tape transmitter. Data can be transmitted and received either directly from the keyboard of the Type 19 set, or from tape.
- b. Tape perforators which receive wire-transmitted data and convert it to punched paper tape.
- c. Teleprinters for use in producing a printed page or a printed tape.

At the sending point these machines may be used to read and transmit data from punched paper tape or may be used to prepare source documents, e.g., sales orders, with the tape being a by-product. At the receiving point, these machines receive wire-transmitted messages and create a punched paper tape corresponding in detail to the original, or automatically type basic documents from the impulses received over the wire and at the same time perforate a 5-channel tape as a by-product.

Using teletypewriter equipment, it is possible to distribute data from an originating center to one or all of a company's offices and warehouses scattered throughout the nation. In the preparation of sales orders, for example, a 5-channel tape is prepared on teletypewriter equipment by combining (1) constant, repetitive data which are programmed on master tapes (one for each customer) with (2) variable, nonrepetitive data which are on the source documents from which the typist is working to prepare a sales order. Selected data on this by-product tape is transmitted by wire to one or several destinations where teleprinter equipment will create business forms or identical tape.

Under recent Bell System developments designed principally for large installations, transmitter equipment and relay equipment are available for use over Bell System lines which allow tape messages

received to be directed by push buttons to several stations on one or more circuits simultaneously. Where numerous branch sales offices and inventory centers are at remote distances from the production control center and/or the accounting center, such a system offers decided advantages.

The Western Union Telegraph Company offers a wide variety of equipment using punched paper tape in connection with its extensive nation-wide circuits. Such equipment includes sets which originate data on 5-channel tape, transmit over Western Union wires, receive the information and convert it either to punched tape or printed pages and printed tape.

TAG-MARKING MACHINES AND RELATED EQUIPMENT

In a variation from tapes and punches are the tag marking machines and related equipment. Whenever a tag is the source document, this equipment offers possibilities in the field of integrated data processing. Tags used in retail stores for price marking and for stock control purposes and tags used in industrial plants for control of production, warehouse, payroll and similar operations are examples. In retail stores the equipment is used to imprint and simultaneously punch codes into tags to be attached to merchandise. The code punched into the tag by the machine may be "read" and converted directly to

punched cards for processing on standard punched-card equipment. In connection with point-of-sale recorders later described, codes punched into tags may be converted to 5-channel punched paper tape.

Marking machines print and punch either cut tickets which may be fed from a hopper, or tags in continuous fanfold strips fed automatically to the machine. The characters to be printed or punched show clearly on the machine. Once the copy is selected, the machine then prints the number of tickets for which the counter is set, and stops automatically.

The basic ticket is a single stub; multiples of this basic unit may be obtained to the extent desired or required by the retailer, depending on the type of merchandise handled and the scope of the procedure desired. For example, two- or three-piece garments may require an identifying tag on each piece.

The tag reader operated in connection with a card punch senses the pinhole punching in the stub, decodes and transmits the data automatically for reproduction in a standard tabulating card. These cards processed in standard tabulating machine equipment are then used to prepare such merchandise reports as sales by style, sales by vendors, size analysis, color analysis, and inventory reports.

By the use of point-of-sale recorders, the data on the price ticket stub may be supplemented, at the

time the merchandise is sold, with additional information about the transaction which can be known only at the moment of sale. Basically, the following sets forth the manner in which the point-of-sale equipment is used. When a salesperson makes a sale, he steps to the nearest point-of-sale recorder and inserts therein the preperforated tag detached by him from the sold merchandise, thereby causing the recording machine to automatically read and inwardly record the price, merchandise class, style number and other basic merchandising particulars of the item. The salesperson punches his clerk number, type of sale (cash, charge, etc.) code and other point-of-sale information on the digital keyboard of the recorder which actuates the machine to compute automatically and print the total transactions, usually on a three-part, one-time snapout-carbon sales slip, and to record simultaneously this information on a 5-channel tape. The customer name and address may be processed on the sales slip by use of a "charge-plate." Each day, at various specified times throughout the day, the paper tapes are collected from the point-of-sale recorders, taken to a central location where they are processed to tabulating cards for use in posting to merchandise control, for sales audit and, in the case of charged merchandise, as account receivable control data. The figuring of sales clerks' commissions and incentive payments

also becomes an automatic function when this equipment is used. These point-of-sale recorders may be used effectively in the taking of a physical inventory. One section of the perforated tag from unsold merchandise is read and recorded on the point-of-sale recorder and a paper tape prepared automatically which, converted to punched cards, will result in a comprehensive inventory report.

While print-punch equipment is now being devoted principally to retail store sales reports, merchandise control and related inventory problems, its manufacturers visualize a large potential in the industrial field for applications such as payroll, production control, and inventory control. Pilot installations for these purposes have already been made.

FORMS COMPANIES

Integrated data processing requires the use of many forms—from source documents, such as purchase orders, to the final accounting analyses and reports. These forms must be carefully designed, then precisely constructed in order to coordinate all equipment and reports involved in integrated data processing. Flexowriters, teletypewriters, and similar equipment in many instances require specially-designed forms and specially-designed equipment for line selection, vertical spacing, and line-forming.

Forms printing companies of national scope have been most progressive in keeping step with inte-

grated data processing, in developing related forms standards, and in suggesting and designing accounting systems and procedures that will make effective utilization of integrated data processing. These companies have also been active in the field of developing the auxiliary equipment above referred to.

Of invaluable assistance to accountants are the publications that these forms companies release from time to time on the subject of integrated data processing. The 119-page publication "Automated Data Processing" prepared and issued by Moore Business Forms, Inc., is interesting and informative. It explains and illustrates the necessary steps in systems study, forms design, and machine application in the field of integrated data processing. The quarterly publication (usually 20-25 pages) entitled "Paperwork Simplification" issued by The Standard Register Company furnishes informative articles written by key executives of companies in various industries, explaining and illustrating how they are using integrated data processing, and how they are effectively employing other modern accounting methods and procedures.

OTHER DEVELOPMENTS

It is believed that, at the time of the preparation of this article, the above-listed equipment represents most of the better known developments in the field of punched paper

tape and associated fields as used in integrated data processing. However, no pretense is made of cataloging all such developments. The research and engineering sections of machine companies are actively engaged in developing new models. Announcements of new machines and practical suggestions for new uses of new or previously-existing

equipment are being made practically every month. The companies engaged in the manufacture of machines and forms for use in the field of integrated data processing are doing their utmost, especially through publications and exhibits, to keep the accounting and management public well-informed of developments.



The Public Accountant and Punched Card Accounting

BY E. S. HARRIS
(Chicago Office)

The quality and extent of a company's internal control system have a direct and vital bearing on the nature and extent of the tests the auditor must make, and incidentally, on the nature and quantity of material he may ask the tabulating department to prepare for his review.

The tabulating department supervisor may sometimes wonder what the material is used for, and how it is used. It may help to indicate briefly what the auditor's objectives are with reference to a few of the items on typical financial statements. A detailed examination of all phases of a set of financial statements need not of course be discussed, but we can indicate a few of the typical phases of an audit, how they are approached, and how the auditor uses material produced by a tabulating department.

The auditor must ask himself certain specific questions with regard to the material he receives from the machine accountant:

1. When was information obtained originally?

Editor's Note: This article was the basis of a talk given by the author before the Northern Illinois Chapter of the National Machine Accountants Association.

2. In what form?
3. Who prepared it and how?
4. Did it reflect actual conditions?
5. What was done with it and how was it done?
6. Was the source data preserved intact and was it valid?
7. What was the extent of verification and approval?
8. Can the data be reproduced if it were necessary to prove the accuracy of the method?

Basically, punched card procedures represent a means, not an end. They are transitional in character, tying together the source document and the end result. We may, therefore, conclude that the sole difference between this tool of accounting and other generally accepted methods is the rapidity and flexibility by which printed records, classifications of source data, and computations are obtainable.

A review of minimum requirements of punched cards indicates that they are the same as those of other methods:

1. Reference in the general ledger to a book of original entry.
2. Books of original entry that are clerically accurate, providing a cross reference to the source document.

3. Accurate subsidiary records cross referenced to source documents, supporting general ledger control accounts.
4. Periodic trial balances of subsidiary records which agree with related control accounts.
5. The method must incorporate such principles of internal accounting control as to assure an accurate recording of all the transactions, classified properly, in the books of account.

If punched cards are used to prepare the general ledger, and/or books of original entry, and/or supporting trial balances of subsidiary records, this in no way changes the minimum requirements. Punched card accounting methods, like all other accounting means, serve to record and preserve all the original transactions, to classify and reflect the results of these transactions in the books of account, and to provide a convenient means of tracing back from the end result to the source document at some later date.

Accountants who think that punched card accounting methods are different sometimes ask: "What happens when a card is lost?" Its loss is incidental, since the source document is the important factor and the card is only a step down the road to the ledger. To insure that the steps along this audit trail are accurate, control totals are established from the source documents and the punched cards are constantly checked against these control totals until a final recording of the data has been effected.

Assuming we agree that the fundamental approach is similar in the punched card method and in other methods, it follows that the problems of review of the system of internal control and audit procedures are not dissimilar either. Punched card accounting equipment, however, may provide the auditor with a tool to speed up certain clerical phases of his examination.

In examining the items of cash in banks and on hand the principal objectives are (1) to determine that the cash balances are actually on deposit or on hand, and (2) that the internal controls surrounding cash transactions provide reasonable assurance as to the accuracy of the recording thereof.

In connection with these objectives the C.P.A. may prepare a reconciliation between the balances shown by the company and the bank—or he may review a reconciliation prepared by company personnel. Frequently he does both. It is for this purpose that he asks the tabulating department for runs of cash transactions prior to and following the balance sheet date. Also, the auditor may obtain a sealed statement direct from the bank, and if checks are prepared on tab machines he may then personally attend or supervise the mechanical sorting and proving of the checks.

As a test of the accuracy of the recording of cash receipts and disbursements, the C.P.A. may select

a period or periods prior to the balance sheet date and check the cash transactions in detail. He may examine checks issued by the company during the selected period, and paid by the bank, to satisfy himself that they appear bona fide and issued for proper company purposes to bona fide payees. His tests may include comparing the checks with the cash disbursement records and with supporting documents. The recorded cash receipts may be traced to the bank statements and to duplicate deposit slips or to other supporting documents.

In examining the item of accounts receivable the auditor's main objectives are (1) to determine that the amount shown as receivable represents bona fide receivables of the company and that the amount is properly stated, (2) to satisfy himself that the accounts are not pledged, discounted or assigned except as shown by the records and on the balance sheet, and (3) to evaluate the adequacy of the reserves for losses on uncollectible accounts, discounts, returns, etc.

The C.P.A. will usually request confirmation of a reasonable portion of the balances of the accounts receivable by direct communication with the debtors. The selection of the accounts for which confirmation is asked is usually made from a list or trial balance of the accounts which are normally kept in a detail ledger under control of a summary account in the general ledger. Where

ledger maintenance involves tab procedures, the tabulating department is generally asked to prepare the list of receivable accounts. Also, since the unpaid items may be represented by a file of "open" items recorded on tab cards, the tabulating department may be asked to prepare the statements to be mailed to customers along with the request for confirmation. Another use to which the tab cards may be put is the preparation of a list of "aged" receivables, showing, for instance, the accounts that are respectively 30, 60, 90 and 120 days or more past due. The auditor may use this list to help him appraise the adequacy of the reserve for losses on uncollectible accounts, since there is an obvious correlation between increased age of an account, and increased dubiousness of collectibility.

Inventories may present many complex problems. The auditor ascertains, as far as is practicable, (1) that amounts shown as inventories are represented by physical goods which have been counted carefully, (2) that prices applied to these amounts are determined in accordance with accepted accounting principles, (3) that clerical computations on the inventories are accurate, and (4) that appropriate provision has been made for losses on obsolete or defective merchandise.

As an aid to performing the necessary tests the auditor may ask the tabulating department for lists

of inventory items from which he will select those he wants to test. If tab cards are used for recording the physical counts, with prices punched in the cards and extensions performed mechanically, the auditor may ask that some test cards be run through the multiplier. He may then, based on the results of such tests, and physical attendance while the actual inventory cards were being put through the calculator, be in a position to reduce substantially the amount of testing of clerical accuracy that he would need in order to satisfy himself on the inventory as a whole.

A listing of important sections of the inventory may be asked for, showing the age of the items and perhaps the most recent movement in the item. The auditor may use this type of listing to help him identify obsolete or slow-moving items, and then ascertain that appropriate provision has been made for possible loss.

In examining the property account, the auditor is concerned principally (1) to ascertain the basis on which the property accounts are stated, and determine that this basis is acceptable, (2) to determine that property additions for the period under review were proper charges to capital, (3) to make reasonably certain that expenditures for fixed assets are not charged to income, (4) to determine that retirements or disposals have been written off properly, and (5) to determine that

charges for depreciation are reasonable and that the accumulated reserves are adequate and reasonable.

To make his tests the auditor may ask for tabulating runs of additions and disposals for the period under review and for lists of depreciation reserves, possibly applicable only to certain groups or classes of assets. From these lists the auditor selects the items he wants to test in order to satisfy himself that the property accounts and related reserves are stated fairly.

Mention has been made of the importance of internal control and the vital part it plays in determining what tests an auditor makes. Where controls are well designed, installed, and supervised, the auditor may, with propriety, curtail the extent of detailed checking of transactions. When controls are not well designed or installed, the C.P.A. may need to extend his tests appropriately, in order to satisfy himself that a company's financial statements present fairly its position and the results of its operations. The principles of sound internal accounting control apply not only to the company's operating and general accounting departments, but directly and specifically to the tabulating department.

The growth of the use of machines for accounting purposes has been due in large part to their usefulness as labor-saving devices. Machines make it possible to produce several related records in a single operation

as contrasted with manual methods which may require several clerical operations for recording the same data in journals, ledgers and reports. Also, machines are capable of processing and recording a great volume of transactions at high speed and with a high degree of clerical accuracy. These very advantages of mechanized procedures, however, are the sources from which special problems in the maintenance of sound internal control may develop. If a single machine operation can accomplish work that was previously performed by two or more clerks, there may be danger of loss of segregation of function under which the work of one employee would serve as a check on the work of another. For example, under manual procedures the maintenance of detailed records of cash receipts and the posting of cash receipts to accounts receivable ledgers may be assigned to two different employees. Under mechanized procedures, both of these functions may be part of a single machine application performed by one clerk. In such case, new problems arise in the maintenance of internal controls and these problems need to be recognized and solved.

However, let us distinguish between internal control and what has been called "control of clerical accuracy." In general, accounting machines include counters or registers, some of which may be used as cross-footers, which perform arithmetic

calculations and arrive at an answer which may be indicated by the machine to be correct or incorrect. Wrong answers, when they appear, are frequently traceable to clerical errors in operating the machine. This is the sort of thing meant by "control of clerical accuracy." It eliminates the necessity for such operations as checking additions of ledger accounts, purchase journals, and similar records, which would usually be required when these records are maintained manually. However, the concept that machines don't make mistakes should not lead us into confusing clerical controls with internal accounting controls. Generally, the machine will record and compute accurately from the source information that is put into it. The machine cannot, however, pass upon or control the correctness of that source information, the validity of the documents in which the information appears, or the use and disposition of documents which the machine produces. The principle of segregation of control phases of procedures from performance phases must be observed, with machines as well as without them.

It was stated previously that basically punched card procedures represent a means, not an end. They are transitional in character, tying together the source document and the end result.

Although this statement refers to punched card procedures, it makes a point which is basic and which

applies equally to all forms of mechanized accounting procedures; that is, the mechanized installation is merely a means for getting from the source document to the financial record or report. The machine-accounting section should perform a service function in that it receives source documents which have been passed through the usual checking and approving functions, and processes the documents from that point. The checking, approving, or other accounting functions should not be performed in the machine accounting unit.

If this principle is kept clearly in mind, it will help to resolve many of the questions which arise in an attempt to design and install mechanized procedures, and at the same time to provide a sound system of internal control.

Defalcations have been perpetrated more than once involving the manipulation of records maintained under mechanized procedures. It is useful to note, however, that it was frequently true that the defalcations were made feasible not by any weakness inherent in the mechanization itself, but by the failure to provide the fundamental safeguards which should be applied to any procedures, whether manual or mechanized, in order to provide an effective system of internal check. In these cases there was often a lack of effective segregation of function, so that one person was enabled to commit an

act of dishonesty and falsify the related records.

This leads us to one of the basic things that the C. P. A. will look for in a tabulating department, aside from information or listings, that is, a soundly organized internal accounting control and internal check procedure surrounding the operations of the tabulating department itself. Source data should reach the tabulating department with pre-control totals established independently of the tabulating department and forwarded directly from the point of origin to a control point, generally in the accounting department. Also, the tabulating department personnel should take no part in operating procedures, but should confine their activities to mechanical processing of data received, and production of related documents and reports.

There are other points that warrant attention so that a smooth and easy working relationship may be established and maintained between the C. P. A. and the tabulating department.

If dual purpose cards are used in any of the applications, they should be so designed that punching will not obliterate any of the manually written data. Although the C. P. A. generally does not need to work with detail tabulating cards, in the case of dual purpose cards, the cards are the source documents themselves which the auditor may examine, and

care should be taken to provide legibility.

Adjustments and corrections should be recorded on cards which are incorporated in the mechanized procedures, so that manually written corrections or changes in machine-printed figures can be avoided.

A word on tabulated reports. As part of regular procedures, the average tabulating department produces a substantial number of reports. In many cases, it would be tremendously helpful if the auditor in charge of the examination would get together with the tabulating department supervisor and review with him the reports that are produced as part of established applications. The tabulating department supervisor may feel that it's up to the C. P. A. to find this out for himself and, therefore, not cooperate fully. If this is true, the C. P. A. should take the initiative. A great deal of time and costly rearranging of schedules in the tabulating department may be saved with the proper degree of cooperation.

For example, the C. P. A. may ask for a run of administrative and general expenses, grouped by branch offices, and by type of expense within each office. Unfortunately, the regularly run report is by type of expense, and by branch office within each expense, so the tabulating department supervisor is confronted with a large re-sort and re-run job. Now the auditor can use the regular

run just as easily, but he doesn't happen to know that it exists.

Or similarly, in a shipping company, the C. P. A. may want a list of expenses by type of expense, and by voyage within each type. As it happens, these are listed by voyage, and type of expense within the voyage. This is just as useful grist to the auditor's mill, and if he knows it exists, much time and work may be saved.

Both of these, incidentally, were actual cases, and there have been many others, in the experience of our men, who make a point of reviewing their intended requests with the tabulating department supervisor, usually with mutually beneficial results. It has happened more than once that the tabulating department supervisor, seeing what is wanted, and knowing what he produces, has made suggestions that were useful and helpful in the course of our work. To the extent that this saves time, it of course reduces costs, whether in operations or in audit work. So we urge a review of the nature and content of the regularly produced reports by the tabulating department supervisor and the independent auditor—it should pay dividends.

We've talked somewhat about what the C. P. A. tries to do in his audits, and what his objectives are in doing his work. Also, we've touched on how he uses some of the material he gets from the tabulating department as tools to help him

attain those objectives. And finally, we've tried to indicate some of the ways in which the tab supervisor and the C. P. A. can work together for the benefit of both.

By way of conclusion, let us summarize the salient points of this discussion.

1. Record keeping in business has three phases: originating and screening the data to be processed; processing the data and producing records and reports which (a) can help run the business, (b) adequately satisfy the reporting requirements of stockholders, government bodies, etc., and (c) can be audited. Audit and control are concerned with all of these phases and no data processing system—be it electronic or nonelectronic—can be satisfactory which ignores this concern.

2. Auditors will agree that satisfactory audits can be made and that adequate accounting controls can be retained even though the audit programs and accounting controls are rearranged or modified to contribute toward efficient data processing. Data processing should make concessions and contributions to bring about effective and efficient audit and control. Making these concessions will often require considerable ingenuity if one is not to hamstring the other.

3. The auditor cannot afford to be a passive onlooker. Developments in mechanization are of considerable importance to him

from at least two viewpoints. As an analyst and interpreter of financial data, he should be vitally interested in the quality of the tools used in producing the data he subjects to critical review and scrutiny; and as an auditor, he should be seriously concerned with the possible impact the use of these new tools may have upon the controls with which he has been accustomed to see financial transactions surrounded.

4. The auditor should know about punch card accounting, electronics and electronic devices in order to make an effective audit of those companies which are using or will use these devices. Even though it may not be necessary to know all about how they work, most auditors take a keen interest in their clients, their products, their manufacturing processes, and certainly in the details of their accounting policies and methods. It follows that auditors will want to know about punch card and electronic machines that will produce records pertinent to their examination of financial statements.

5. Any concentration of data processing in machine centers, and any related changes in functional organization need not weaken internal control or complicate audit procedures if proper supervision, control and procedures are maintained with respect to the input and output information. The details of checks and balances may vary, but

the objectives and results need not change unless there is good reason for them to change.

It will be important that the machine design and the machine programs provide assurance of accuracy. Basic input information will have to be controlled and be accurate. The financial and accounting officers of a business enterprise and its auditors will need to understand the basic plan of data processing by the machines, but not all of the mechanical and electronic details as to how this processing is to be accomplished.

6. Punch card and electronic data-processing equipment, properly and skillfully used, will open up new fields for accountants. Business information will be handled much more rapidly without human intervention. Existing systems will be greatly modified, and new methods will have to be devised.

7. It is not likely, however, that the role of the auditor and his responsibilities will be greatly changed.

While punch card and electronic machines will change prevailing methods of processing and recording information to some extent, the same needs for control and probably the same patterns of control, will continue to exist. The use of this equipment will facilitate management decision-making by faster processing of data and will render possible the use of advanced mathematical techniques.

8. Last, but certainly not least, machine accounting personnel is an extremely important factor. These employees must be qualified operators properly trained to understand accounting procedure sufficiently to evaluate the job being done right down to the key punch operator. We cannot over-emphasize the importance of the competency and caliber of the personnel responsible for the operation of the machines. The practicing accountant expects to find a well-managed machine room, turning out accurate information in a well-organized manner.



An Unusual Engagement

About three years ago the United States Army determined to do something about control over and accounting for supply inventories, basically to provide financial control (that is in dollars) to supplement the unit control then in existence. Arrangements were made with several firms of certified public accountants to review present methods and to suggest and help in the installation of new methods. Our firm undertook that part of the work having to do with the supplies inventories at Army posts, camps and stations.

Obviously, supplementing unit control with financial control caused an increase in the amount of paper work which was required. However, we felt that certain of the procedures then prescribed for the handling of what might be called household supplies were cumbersome and could be improved. We therefore suggested to the then Under Secretary of the Army, for his consideration, a new method of dealing with that type of supplies. Our firm then undertook to assist in developing the necessary broad policy and detailed procedures to implement it. *The New York Times* recently published a story under the title "The Supply Sarge Shops with a Cart," which describes the new procedure. Excerpts from the article are reproduced on a following page.

That the innovations have been successful is attested by a letter addressed to Mr. Elfers, our New York partner in charge of the engagement, from Brigadier General R. T. Evans, Jr., Chief, Storage and Distribution Division, from which the following is extracted:

I would like to express my appreciation for the assistance Lybrand, Ross Bros. & Montgomery has provided in the past three years. The Army Financial Management Plan is a comparatively new program and one in which the Army has little experience. At the suggestion of the then Under Secretary of the Army, in June 1953 the Army contracted with several certified public accounting firms to obtain the benefit of comparable endeavors in civilian industry. Your firm has more than fulfilled our expectations. In addition to developing and installing a sound financial inventory accounting system for posts, camps and stations, you also contributed many valuable suggestions for simplifying existing procedures. The Self Service Supply Center concept is one of these suggestions.

We are particularly grateful to you personally and to Mr. Lambert Spronck and Mr. John Antoniazzi. From the Army's point of view, the three of you constitute an ideal team with the combined qualities of contributing refreshingly new ideas, tempering these ideas with prudence, and converting broad policy to meticulously detailed procedures.

The members of my staff that have been associated with your firm join me in commending Lybrand, Ross Bros. & Montgomery for an outstanding contribution toward improved Supply Management in the Army.

Excerpts from article in THE NEW YORK TIMES, Sunday, Sept. 2, 1956

The Supply Sarge Shops with a Cart

*And a Company Charge Plate, Too, at New Army Depots
Set Up Like Supermarkets*

RED TAPE IS ELIMINATED

*Checkout Tape Used Instead for Expendable
Items—Noncoms Enthusiastic*

By Albert L. Kraus

The Army supply store is looking more and more like a supermarket.

Brooms, brushes, soaps, detergents, insecticides, tent pins, typewriter ribbons, wire staples and other low-cost expendables are being stocked in a new kind of Army shopping center.

Clearly marked as to price, supplies are displayed in bins, island shelves and wall shelves, separated by wide aisles. Armed with his shopping list, a soldier authorized to pick up supplies loads what he needs in a shopping buggy and takes it to a check-out counter.

There he presents a metal credit plate similar to a department store "Charge-A-Plate." He receives a cash-register tape showing his total "purchase," his unit's monthly dollar credit, and the balance remaining for the month.

In the past, a unit supply sergeant had to make out requisitions in numerous copies, based on an authorized table of allowances. The requisitions had to be submitted by specific dates a month or so in advance.

Shopping on a Budget

Now, like a housewife, he may run out of furniture polish or scouring powder, run down to the "shopping center" and get more in a matter of minutes.

Like a housewife also, he may pick and choose, guided by prices and by his budget—the unit's monthly dollar credit. No longer must he take floor brushes at \$3.10 if he knows the unit can get along with brooms at \$1.20.

If he saves money one month, he gets a bigger balance to draw against the next month.

One of the chief reasons for the new system, according to the Army, was to discourage hoarding. The thought was that units would be able to get what they wanted when they needed it. Supply sergeants would find little advantage in obtaining supplies for which they had no use but which would be "good trading material." . . .

Operation of the centers parallels closely that of a civilian supermarket. A manager is responsible. Although he is not held to account for profits, he must insure at least that inventory shortages do not exceed $\frac{1}{2}$ per cent of sales.

Managers in charge of such typical departments as office supplies, housekeeping supplies, athletic supplies and repair parts, must check inventories, estimate customer demand and assure that goods are reordered soon enough to maintain a constant stock. They must assure also that slow-moving items are not stocked to excess.

Warehouse employees receive, mark, repackage and store items until needed. Clerical workers perform checkout, accounting, ordering, business machine and secretarial services.

And Only Three Entries

Accounting is on a dollar, not item basis. The bookkeeping in some instances is so streamlined that only three forms are required—a receipts journal, a sales journal and a customers' ledger.

Paperwork, according to one Army account, is reduced to "an incredible minimum."

In staffing its "shopping centers," the Army leans strongly toward civilians with previous retail experience. The manager, one checkout clerk and at least one department manager, it recommends, should be civilians. As managers, men who have

worked in medium-sized self-service stores are preferred.

Suggestions for setting up "shopping centers" go so far as to discuss parking lots, shelving and storage arrangements and the use of mechanical accounting equipment.

The Army cautions that it probably would be best to get the center operating and see how things work out for a while before making extensive building arrangements or obtaining extensive mechanical equipment.

An adding machine, however, it considers essential.



The L. R. B. & M. Journal

Published by Lybrand, Ross Bros. & Montgomery, for distribution to members and employees of the firm.

The purpose of this journal is to communicate to every member of the staff and office, plans and accomplishments of the firm; to provide a medium for the exchange of suggestions and ideas for improvements; to encourage and maintain a proper spirit of cooperation and interest, and to help in the solution of common problems.

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Editorials

Retail Merchandise Accounting

The Second Edition of Retail Merchandise Accounting, by Mr. Hermon F. Bell, associated with our firm since 1913 and a partner since 1929, came off the press in September. Mr. Bell has long been associated with problems, both accounting and tax, arising from retail merchandising operations. For many years he lectured on retail accounting at Columbia University, and has written extensively on accounting and tax aspects of retailing. He has served on many committees of the New York State Society of Certified Public Accountants, the American Institute of Accountants and the Controllers' Congress of the National Retail Dry Goods Association.

The Second Edition of Mr. Bell's book is based on his more than forty years' experience in this field. It adapts sound accounting theory and practice to the distinctive techniques, procedures and problems of both large and small retail stores. It emphasizes merchandise control through retail merchandise accounting and budgets, and discusses at some length the accounting and tax problems of the Lifo method of inventory determination. The book will be found indispensable to those who are concerned with ac-

counting and tax problems of retail merchandise accounting.

Annual Firm Tax Conference

The Annual Conference of senior tax personnel from our various domestic offices will be held on October 15 and 16, 1956 at Pocono Manor Inn, Pocono Manor, Pennsylvania, with about sixty persons in attendance. The morning and afternoon technical sessions will be presided over by Mr. Bardes as General Chairman, assisted by the following Section Chairmen: Messrs. Mirandy, Stuetzer, Pearson, Mahon, Phelps, Blair-Smith, Hensel, Ochis and Yager. The following topics are among the many pertinent subjects to be discussed by the group: Tax Savings, Foreign Tax Havens, Estate Planning, Collapsible Corporations, Accelerated Depreciation, Client's Constitutional Rights in Tax Fraud Cases, Tightening Up on Charitable Organizations, Principles of Organization for Efficient Handling of Tax Matters by Client's Staff and Current Developments in Renegotiation.

The technical papers presented at the Conference believed to be of widespread interest will be published in a special issue of the *L. R. B. & M. JOURNAL* to come out shortly.

Notes

Baltimore Office

The following are serving the Maryland Association of Certified Public Accountants and the Baltimore Chapter of N.A.C.A. in the capacities indicated for the year 1956-57:

Maryland Association of C.P.A.s:

- Mr. Chinlund, Board of Directors and Committees on By-Laws and Program
- Mr. John A. Engel, Jr., Committee on Accounting and Auditing Procedures
- Mr. Arthur R. Ransom, Jr., Committee on Cooperation with Bankers
- Mr. John D. Muth, Committee on Insurance
- Mr. Angelo Nastasi, Committee on Membership Attendance
- Mr. L. P. Deering, Committee on New Members
- Mr. C. V. Blum, Committee on State of Maryland Taxation

N.A.C.A.:

- Mr. Arthur R. Ransom, Jr., Team Captain

Birmingham Office

On May 16, 1956, Mr. Anthony J. DiIenno addressed the Catholic Men's Club on the subject "Individual Taxes."

Mr. Leon L. Palmer has been appointed a member of the Committee on Education of the Alabama Society.

Messrs. Frederick C. Deisher and Bobby W. Smith have become members of the American Institute of Accountants.

Boston Office

At the 1956 annual meeting of the American Accounting Association, Mr. Perry received the Alpha Kappa Psi award for outstanding contribution to accounting education.

The Boston office is represented in the year's activities of the Massachusetts Society of Certified Public Accountants as follows:

- Mr. Walker—President
- Mr. Stuetzer—By-Laws
- Mr. E. W. Higbee—Publications; Accounting and Auditing Procedure
- Mr. F. E. Moore—Public Relations
- Mr. K. B. Murray—Cooperation with Hospitals
- Mr. E. W. L. Page—Management Services
- Mr. J. P. Finnegan—Tax Legislation

On August 16, 1956, Mr. Stuetzer participated with a life insurance man, a member of the Bar, and a trust officer, in a one-act play dealing with Estate Planning. This is the fourth time this play has been presented by substantially the same participants. This time the play was presented before the Colby College Third Annual Tax Institute held in Waterville, Maine.

Mr. Stuetzer served as a member of a question and answer panel on September 29th at the Third Annual Federal Tax Forum, sponsored by Northeastern University Institute of Taxation in conjunction with professional accounting societies in

New England. Mr. Victor Cohen also participated in this Institute.

Mr. Francis E. Moore served as coordinator of the Spring, 1956 Seminar in Practical Management for Small Manufacturers and the Fall, 1956 Seminar in Practical Management for Small Retailers sponsored by the Small Business Administration and Boston University. He attended the Ford Foundation-Small Business Administration conference held in July, 1956 at the University of Colorado, Boulder, Colorado. Mr. Moore is coordinator of the evening seminars sponsored by Boston University and The Small Business Administration.

Mr. James Neeley, Jr., addressed the Pennsylvania Electric Association Annual Accounting Conference held in Philadelphia on May 21 on the subject "Responsibility Accounting: A Public Utility Application." He is Chairman of the Trophies and Awards Committee of the Boston Chapter of N. A. C. A. for 1956-57.

Mr. James H. Antonellis has been awarded his Massachusetts C. P. A. certificate.

Chicago Office

On August 29, 1956, Mr. Russell acted as Co-Chairman of a Round Table at the annual convention of the American Accounting Association in Seattle on the subject of "Management Services by Public Accountants." On September 11, 1956, Mr. Russell addressed the

Cincinnati Chapter of the Systems and Procedures Association of America on the subject "Management Accounting Services by Certified Public Accountants."

Messrs. Berton J. Barr, James A. Crumley and R. M. Williams received their Illinois C. P. A. certificates on the basis of the November, 1955 examination and Mr. James C. Ettling received his Indiana certificate on the basis of the May, 1956 examination.

The sixth annual Chicago Office Golf Outing was held on Friday, August 31, 1956 at Calumet Country Club. We were favored with the best weather we have had in a number of years. There were 72 present including guests from other offices and a number of former staff members. Low Gross prize was won by John W. Eichmann and Low Net by Alfred T. Dent. Joseph J. Marek was Low Gross and George E. Shoup Low Net for guests. Numerous other prizes were presented by Ed Staub who presided at the dinner, the basis for award being a closely guarded secret of the committee-in-charge.

Mr. L. M. Bender was recently presented with a gold wrist watch in recognition of his becoming a member of the "Quarter Century Club."

Cincinnati Office

Mr. Dennis and Mr. Abner J. Starr attended the annual conven-

tion of the American Institute of Accountants held in Seattle.

Mr. Waterfield is serving as an Associate Chairman of the 1957 United Appeal Campaign for the Cincinnati Area and Northern Kentucky.

Mr. Raymond J. Leisner, a member of the Systems and Procedures Association of America and a member of the Program Committee of the Cincinnati Chapter, introduced Mr. Russell who addressed the Chapter on September 11, 1956 on the subject "Management Accounting Services by Public Accountants."

Staff members serving on the 1956-57 committees of the Cincinnati Chapter of the Ohio Society of Certified Public Accountants are:

Accounting Education—Raymond J. Leisner, *Chairman*

Attendance—Daniel R. Hubler

Constitution—Abner J. Starr, *Chairman*

Cooperation with Bankers & Credit Men—Thomas A. Haeussler

Entertainment—Stanley E. Walker

Meetings and Program—Paul M. Whitman

Membership—Robert W. Davis

Press & Publicity—Eugene F. Warren

Cleveland Office

Mr. Noell has been elected Vice-President of the Cleveland Chapter of the Ohio Society of C.P.A.s. The following men were appointed to committees of the Ohio Society:

State Committee:

Mr. A. W. Lindstrom—Chairman, Press and Publicity Committee

Mr. Noell—Vice Chairman, Committee on Natural Business Year

Cleveland Chapter Committee:

Mr. A. W. Lindstrom—Chairman, Press and Publicity Committee

Mr. Padgett—Accounting and Auditing Procedures Committee

Mr. J. P. Collieran—Federal Taxation Committee

Mr. J. L. Wamsley—Membership Committee

Mr. Padgett and Mr. George B. Talmage are members of the Taxation and Finance Committee of The Citizens League of Cleveland and Cuyahoga County.

Mr. James P. Collieran is on the Board of Directors of The Cleveland Catholic Youth Services Bureau.

Miss Katherine E. Pfeifer, a member of the staff, has been elected National Secretary of the American Woman's Society of C.P.A.

Dallas Office

Mr. J. F. S. Arthur is Director of The Newcomen Society, locally, Director of the Dallas Symphony and a member of the Executive Committee. He is also National Director of the English Speaking Union of the U.S.A. and Treasurer of the Dallas Branch.

Mr. J. K. S. Arthur served on a three-man Committee on Cooperation with Banks and Bankers representing the Texas Society of C.P.A.s which, in cooperation with the

Credit Department of the First National Bank in Dallas, developed a sample audit report for Sales Finance Companies seeking bank financing. This report was approved by both the Texas Society of C.P.A.s and the Texas Associated Automobile Finance Companies. Mr. Arthur is presently serving on a three-man committee representing the Texas Society of C.P.A.s which, in cooperation with the Credit Department of the First National Bank in Dallas, is developing a sample audit report to be used by contractors seeking bank financing. He has also served as chairman of a three-man committee (other two, W. A. Taylor, resident partner, E. F. Hutton & Co., and Frank C. Carter, Vice-President and chief loan officer of First National Bank in Dallas) to select the best annual report by a Dallas Junior Achievement Company, and in the Community Chest and Arthritis Campaigns. Mr. Arthur is also a member of the Finance Committee of the Brook Hollow Golf Club.

Mr. Welsch attended the Mid-Continent Oil & Gas Association Standing Committee on Taxation convention held in Fort Worth on June 6-7 and the N.A.C.A. convention in Chicago on June 20-23. He addressed the Aetna Life Insurance Agents in Dallas on September 10, 1956 on the subject "Insurance and Taxes." Mr. Welsch is a member of the Board of Governors of Spring Valley Athletic Club, on the

Board of Directors of Hillcrest Estates Association, on the Tax Accounting Practice Committee of the Texas Society of C.P.A.s, and Associate Director of Publicity and Team Captain of the Dallas Chapter of N.A.C.A.

Detroit Office

The following partners and staff members are serving in various organizations in the capacities indicated for the year 1956-57:

Michigan Association of C.P.A.s:

- Mr. Righter—Board of Directors
- Mr. McCullough—Committee on Federal Taxation
- Mr. Hobbs—Chairman, Committee on Relations with Bankers
- Mr. Code—Committee on Relations with Bankers
- Mr. Bolz—Committee on Professional Ethics and Unauthorized Practice
- Mr. Fox—Accounting and Auditing Procedures Committee
- Mr. Lawrence H. Homan—Accounting and Auditing Procedures Committee
- Mr. Eldin H. Glanz—Committee on Relations with Attorneys
- Mr. Fred S. Spindel—Committee on Relations with Educators
- Mr. Matthew A. Garrisi—Committee on Professional Education
- Mr. William R. Richards—Graduate Study Conference Committee
- Mr. John F. Loughlin—Public Relations Committee
- Mr. George Valentine—Publications Committee
- Mr. Laurence J. Wilson—Committee on State Taxation
- Mr. Harold Sweet—Insurance Committee

Systems and Procedures Association of America, Motor City Chapter:

Mr. Fox—Program Committee

N. A. C. A.:

Mr. Fox—Division Commander

Mr. Donald E. Beattie—Team Captain

Mr. Fox spoke at the Annual Fall Convention of the National Electric Sign Association held at the Hotel Statler in Detroit on September 27, 1956. The subject of his talk was "Accounting Problems of the Electric Sign Industry."

Messrs. Edward E. Bolle, Gregory I. Donovan and Frank V. Wierzbicki have passed the May, 1956 C.P.A. examinations. Franklin A. Curtis and Carroll K. Ramsey received Certificates of Examination.

Los Angeles Office

In July, Mr. Bowles attended a luncheon of the California Society of C.P.A.'s Downtown Luncheon Group and spoke on the subject "Valuation of In-Process Inventories."

During the month of August, Mr. Warner served as a member of the planning committee, as discussion leader and a chairman of a panel session at the Eighth Annual Graduate Accounting Study Conference, sponsored by the California Society of C.P.A.s and by the American Institute of Accountants, at Claremont Men's College, Claremont, California. He was awarded a token as member who had at-

tended all such conferences since inception in 1949.

Mr. Warner has agreed to serve as Treasurer and Mr. J. Walker Voris as Assistant Treasurer of the Southern California Eisenhower-Nixon Campaign Committee and Mr. Bowles is a member of the "Kuchel for Senator Committee."

After completing 35 years of service on the staff, Mr. Richard A. Bottenfield retired on July 1, 1956. A testimonial dinner was held in his honor, gifts were presented, and an engraved scroll expressing the good wishes and high regard of all members of the Los Angeles organization.

Louisville Office

Mr. Harold W. Glore was one of the principal speakers before the Louisville Chapter of N.A.C.A. at their "discussion forum" on April 2, 1956. The topic of the forum was "Taxes—Current and Prospective."

Mr. Glore was elected second vice president and a member of the executive committee of the Kentucky Society of C.P.A.'s and he also continues to serve as a director, a post to which he was previously elected.

Committee assignments announced by the Kentucky Society for the 1956-57 term include the following:

Mr. Harold W. Glore—Director in Charge, Accountants' Liability Insurance; Chairman, Meetings

Mr. Louis S. Sorbo—Chairman, Education

Mr. William R. Hindman—Education,
Library

Mr. Woodrow W. Pitzer—Education

Mr. Thomas K. Baer—Education

Mr. J. Martin Conder—Meetings

Mr. Kenneth Clancy passed the May, 1956 C.P.A. examination. Messrs. Thomas Baer, William Wagner, and Earl Wiggins have been admitted to membership in the American Institute of Accountants.

New York Office

A reception for Mr. Jennings at the California Club on August 21st was arranged by Mr. Warner of the Los Angeles office. Approximately 150 clients and guests (bankers, attorneys, investment counsel, representatives of civic bodies, etc.) were in attendance.

As a member of the Federal Trade Commission Advisory Committee on Cost Justification, Mr. Jennings participated in the preparation of a report to the Commission issued this year.

Mr. Bell, a retiring charter member of the Brooklyn Chapter of N.A.C.A., was presented a life membership card by the Chapter President on September 20th.

On June 26th, Mr. Richardson took part in a panel discussion of the lawyer-accountant relationship at the Pennsylvania Bar Association's meeting in Spring Lake, N. J. Mr. Richardson discussed "Presenting the Accountant's View." He

also was a member of a panel discussing tax problems at the 69th annual meeting of the American Institute of Accountants in Seattle, September 23-27.

Mr. Richardson has agreed to serve on the Advisory Group to the Subcommittee on Internal Revenue Taxation of the Committee on Ways and Means. He is also presently serving as chairman of the Advance Gifts Division of the United Campaign for Westfield Social Agencies and has been appointed a member of a lay committee on costs and accounting procedures of the Board of Education's Committee on Finance and Budget of Westfield. He was elected 2nd Vice-President of the Federal Tax Forum, Inc. and is serving as a Director for a two-year term.

Mr. Mirandy spoke on "Tax Techniques for Maximizing Compensation" at a meeting of the North Jersey Chapter of the Institute of Internal Auditors held in Newark in February.

Mr. William Morris was a speaker at the 15th Annual Summer Session of the Practising Law Institute held at the Sheraton-Astor Hotel in New York on July 19th. His topic was "Leasing Equipment and Machinery." He also spoke at the Tax Executives Institute Syracuse Chapter meeting on the subject "Depreciation and the Recent Regulations" on September 12th.

On September 27th, Mr. Louis Moscarello addressed the New Eng-

land Controllers Congress held at Harvard Graduate School of Business on the topic of "Revolving Credit Accounts—C.P.A. Viewpoint."

Mr. George E. Doty addressed the Rotary Club of Baldwin, Long Island on September 20th on "Services to Expect from Your Public Accountant."

Miss M. M. White is currently serving on the Education Committee of the American Society of Women Accountants.

Mr. Elfers has been appointed a member of the Advisory Committee to the Standardization Committee of the Controllers' Congress of the National Retail Dry Goods Association for the current year.

The following men successfully completed the May, 1956 C.P.A. examinations. Unless indicated otherwise, the examinations were passed in New York.

Cleaver, Kenneth L.

Murray, Thomas F.

Prizzi, Joseph M.

Schoen, Robert J. (Washington)

Philadelphia Office

Mr. Hewitt spoke at the Second Annual Accounting Study Conference sponsored by the Pennsylvania Institute of Certified Public Accountants and Pennsylvania State University—College of Business Administration—which was held at University Park, Penna. on August 5th to 8th. His subject

was "Professional Aspects of Public Accounting."

Mr. Hewitt has been elected a National Vice-President of the National Association of Cost Accountants for the year 1956-1957. In that capacity, he attended the Trenton, N. J. Chapter meeting on September 11th and awarded Third Place Banner to that Chapter in connection with the inter-chapter N.A.C.A. Trophy competition.

Also in connection with the National Officers' visits, he addressed the Portland, Oregon Chapter on September 18th, and the Seattle, Washington Chapter on the 19th.

Mr. Mahon is a member of the 60-man Board of Directors of the Chamber of Commerce of Greater Philadelphia and also a member of the 20-man Executive Committee. He also has been chairman of the Tax Council of the Chamber of Commerce for about a two-year period.

Mr. Petty was a member of the Board of Contributing Editors for the recently-published Fourth Edition of the Accountants' Handbook.

Mr. Zug has been appointed Vice-Chairman of the Annual Giving Campaign of Episcopal Academy, Merion, Pa.

Mr. Taylor has been appointed as a consultant to the Budget Committee of the Pennsylvania State Citizens' Advisory Board of The Salvation Army.

Mr. Herman C. Heiser served on the 1956-1957 Nominating Com-

mittee for National Officers and Directors of N.A.C.A.

At the 1956 International Cost Conference held in Chicago, Ill., on June 26th, Mr. Heiser spoke on "Justifying Capital Expenditures."

He addressed the Merrimac Valley Chapter of N.A.C.A., Andover, Mass., on September 20th on "Direct Costing."

Mr. Frederick Martin has again been appointed as a member of the Campaign Committee as well as Chairman of the Audit and Report Committee of the United Fund of Philadelphia for 1957.

Mr. Raymond E. Graichen's article on "Study of New Depreciation Regulations Shows Them to be Practical and Easily Applied" has been printed in the September issue of "The Journal of Taxation."

On September 10th, a luncheon was given at The Union League for Henry S. Kreider, who retired from the Philadelphia staff on September 30th after 46 years of service with the Firm. Those in attendance included partners, supervisors and members of the Quarter-Century Club, with Mr. Hewitt acting as Master of Ceremonies. Heartfelt wishes were extended to Henry, and, on behalf of the Firm, Mr. Ross presented him with a Chelsea Banjo Clock suitably inscribed.

The following members of the Philadelphia Organization were elected or appointed for the year 1956-1957 at the annual meeting of the Pennsylvania Institute of

C.P.A.s which was held at Bedford Springs, Pa., June 17th through the 20th:

Council:

Harry C. Zug (1955-1957)

C. P. A. Spokesman Editorial Board:

Harry C. Zug, Chairman

Committees on:

Past Presidents:

T. Edward Ross

George A. Hewitt

Legislation:

George A. Hewitt, Advisory Sub-Committee

William F. Scheid, Jr.

Annual Meeting:

Edward P. Mullen

Membership:

Britton H. Miller

By-Laws and Canons of Professional Ethics:

Roger F. Burd

Taxation:

Raymond E. Graichen, Vice-Chairman

Cooperation with Bankers:

Frederick Martin

Education:

Philip J. Taylor

Cooperation with the Bar:

James J. Mahon, Jr.

Planning:

Glenn O. Petty, Vice-Chairman

Legislative Policy:

George A. Hewitt, Chairman

Natural Business Year:

Harry C. Schmidt

Study of Privileged Communications:

James J. Mahon, Jr.

60th Anniversary Committee:

T. Edward Ross

George A. Hewitt

PHILADELPHIA CHAPTER OF PENNSYLVANIA
INSTITUTE OF C. P. A.S

Committees on:

Executive:

Richard T. Farrand
Britton H. Miller

General Meetings:

John A. McConnell, Jr.

Tax Meetings:

Richard T. Farrand, Chairman
Kenneth J. Mutzel

Attendance and Reception:

Benton B. Wilde

Continuing Education:

Frank J. Keenan

Member Advisory Service:

Orlando H. Cloud, Jr.

Audit of Political Sub-divisions:

C. Gordon Hodge, Jr.

Social Activities:

Britton H. Miller, Chairman
Robert H. E. Lauer
John M. Thompson, Jr.

Radio and Television Publicity:

Rufus F. Alkins
William G. Ralston, Jr.

Newspaper and Magazine Publicity:

Samuel Wetherald

Cooperation with Credit Grantors:

Woodley W. Chandler

Speakers' Bureau:

Frederick J. Wonsetler

Cooperation with Educational Institutions:

Robert S. Haas

Taxation:

Edward F. Habermehl
William F. Scheid, Jr.

Cooperation with Local Governments:

Harry C. Zug

Nominations:

Philip J. Taylor

The following members of the Philadelphia organization were

elected or appointed for the year 1956-1957 at the annual meeting held in May of the Philadelphia Chapter of N.A.C.A.:

Vice-President:

James E. Meredith, Jr.

Committees:

Steering:

George A. Hewitt

Education:

Harold C. Hunsberger, Associate Director

Members' Service (Division D):

Walter T. Brown
William G. Casey

Publication:

Herman C. Heiser

The following members of our staff have been elected to membership in N.A.C.A.:

Milton H. Harvey
William P. McGann

Pittsburgh Office

Mr. Marsh was elected Chairman of the Committee on Finance and Budget of N.A.C.A. for the year 1956-57.

Mr. James E. Gelbert addressed the N.A.C.A. Youngstown, Ohio Chapter on September 19th on the subject "New Depreciation Regulations."

St. Louis Office

The following members of the St. Louis office are currently serving on committees of the St. Louis Chapter of the Missouri Society of Certified Public Accountants:

Mr. Snowden—Chairman, Committee on Cooperation with the Bar Association

Mr. Carlin P. Oliphant—Committee on Public Relations

Mr. Stephen D. Saboff is a member of the Education Committee of the St. Louis Chapter of N.A.C.A.

San Francisco Office

The San Francisco office is represented in the 1956-57 activities of The California State Society of Certified Public Accountants, and the San Francisco Chapter thereof, as members of the following committees:

Mr. Giles—State Society Committee on Relations with Bar; San Francisco Chapter Committee on Governmental Accounting and Auditing

Mr. Huss—State Society Committee on Cooperation with Credit Grantors; San Francisco Chapter Committee on Cooperation with Credit Grantors

Mr. Carter P. Thacher—San Francisco Chapter Committee on Discussion Lunches

Mr. Floyd P. Karg—State Society Committee on Accounting and Auditing Procedures; Chairman of San Francisco Chapter of Committee on Accounting and Auditing Procedures

Mr. Richard B. Sims—San Francisco Chapter Committee on Meetings and Programs

Mr. C. J. McDowell—San Francisco Chapter Director

Mr. Donald W. Schroeder—San Francisco Chapter Committee on Public Relations

Mr. Giles is a director of the San Francisco Chapter of N.A.C.A. and is acting as chairman of the Special Prospects Group of the

C.P.A. Group of the United Bay Area Crusade and Mr. Donald W. Schroeder is also acting as a solicitor for the Crusade.

Mr. Lambert H. Spronck spoke on "Reporting at the Point of Decision" before the Portland Chapter of N.A.C.A. on September 18th.

Tulsa Office

The Tulsa Chapter of N.A.C.A. has asked Mr. Thomas W. McKibben to serve as an associate member of the Board of Directors and as a member of its Publications Committee.

Messrs. T. L. Smith and E. L. Norfleet recently received notice that they had successfully passed the May, 1956 Oklahoma C.P.A. examination. Mr. J. O. Tuttle, Jr. was accepted into membership of the American Institute of Accountants June 30, 1956.

The families and friends of the Tulsa office staff enjoyed swimming, baseball and lots of good food at the Southern Hills Country Club on July 27, 1956, with thirty nine in attendance.

Washington Office

On September 24th, Mr. Leonard Raum was a speaker at the 11th Annual Conference of Tax Executives Institute, Inc. held in Los Angeles. He discussed "Acquisition of Corporations with Losses" (Code Sections 269, 381 and 382).

Lybrand, Ross Bros. & Montgomery

Offices

<i>Cities</i>	<i>Addresses</i>
BALTIMORE 2	First National Bank Building
BIRMINGHAM 3	First National Building
BOSTON 10	80 Federal Street
CHICAGO 4	Board of Trade Building
CINCINNATI 2	Carew Tower
CLEVELAND 14	Union Commerce Building
DALLAS 1	First National Bank Building
DETROIT 26	Book Building
HOUSTON 2	1114 Texas Avenue
LOS ANGELES 13	510 South Spring Street
LOUISVILLE 2	Heyburn Building
NEW YORK 4	90 Broad Street
PHILADELPHIA 2	Packard Building
PITTSBURGH 22	Oliver Building
ROCKFORD, ILL.	119 North Church Street
SAN FRANCISCO 4	100 Bush Street
SAINT LOUIS 1	411 North Seventh Street
SEATTLE 1	Skinner Building
TULSA 3	First National Building
WASHINGTON 5	Investment Building

EUROPE

LONDON S.W. 1 ENGLAND.	3 St. James's Square
PARIS 1, FRANCE	39 Rue Cambon

